

RemarksSpecification

An inadvertent typographical oversight has been corrected in the last sentence in paragraph 18 of the specification, now correctly to state that gradient of spreading resistance versus thickness is significantly greater in a p-type region in the present new structure as compared with the prior art. The correction is supported by the present Fig.1 in combination with Fig.1 of Jianming Li et al., "Properties of Silicon-on-Defect-Layer Material", Materials Research Society, Vol. 396, pages 745-750 ("Li") at page 747.

As shown in Li, at shallow depths of the initial region there, the slope/gradient of spreading resistivity is significantly less than at greater depths. If now, in accordance with the applicant's claimed invention, a significant surface portion of the region is removed as illustrated in applicant's Fig.1, what remains is a region with greater gradient of spreading resistivity. By the present amendment in this respect, the last sentence of paragraph 18 of the applicant's specification is corrected accordingly.

Paragraph 2 of the Office Action

In response to the rejection of claims 1-3, 5-11 and 13 under 35 U.S.C. 103(a) over Li, claim 1 has been amended by inclusion of language expressing criticality congruent with the last sentence of applicant's paragraph 18 as amended hereinabove. Li fails to teach, anticipate, suggest or motivate removing surface material to a depth as claimed, critically for achieving a preferred new resistivity profile having a gradient which is significantly greater than gradient of an initial spreading resistivity profile. Device performance benefits realized with the critical new structure are described in the applicant's paragraphs 24 and 31 of the specification, specifically as to cut-off, transconductance and latch-up characteristics, for example.

With structural criticality for operational benefits as described, the applicant's claimed method is non-obvious in view of Li and/or further art cited by the Examiner or otherwise known to applicant. With claim 1 as allowable over the prior art, claims 2, 3, 5-11 and 13 are allowable as dependent claims.

Cited additionally, in rejections under 35 U.S.C. 103(a) of claims 4 and 12, are Jianming Li et al., "Properties of proton-implanted p-type Si: supports for the models explaining a novel p-n junction in Si", Nuclear Instruments and Methods in Physics Research B 160 (2000) and U.S. Patent No. 5,633,174 of May 27, 1997 to Jianming Li, pages 190-193, respectively. The additional citations do not detract from allowability of claims 4 and 12 as dependent claims also.

The applicant respectfully requests reconsideration of the application as amended, and allowance of his claims 1-13.

Respectfully submitted by

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Attached:

Charge payment authorization for a 3-month extension of time for this response.